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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/077,917	02/18/2002	Ronald W. Ignatius	77054-9023-01	2643

7590

05/28/2003

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EXAMINER

JOHNSON, HENRY I

ART UNIT

PAPER NUMBER

3739

DATE MAILED: 05/28/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/077,917

Applicant(s)

IGNATIUS ET AL.

Examiner

Henry M Johnson, III

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-- Th MAILING DATE of this communication app ars on th cov r sh t with the correspondenc address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-9 and 15 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-9 and 15 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 2.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

DETAILED ACTION

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claim 7 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The claim is related to use rather than structure rendering it indefinite.

Claim Rejections - 35 USC § 102

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-3, 8, 9 and 15 are rejected under 35 U.S.C. 102(b) as being anticipated by U.S. Patent 5,278,432 to Ignatius et al. Ignatius et al teaches a device for providing radiant energy that includes an LED array (optoelectric device) in a housing (Fig. 5), a fan (Fig. 5, # 40) and heat sink (Fig. 5, # 36) for cooling with wavelengths from 620 to 680 nm and/or 700-760 nm (Col. 2, lines 5-7). The housing includes a glass cover plate (Col. 5, line 6) and is interpreted as being portable having no permanent supports shown.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent 5,278,432 to Ignatius et al as applied to claim 1 above, and further in view of Drollette, Dan;

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LED's in Space. Can Light Hasten Healing in Space; Biophonics International, September/October 2000. Ignatius is discussed above and is assigned to Quantum Devices, but fails to specifically disclose a wavelength of 688 nm. Drollette, using a Quantum Devices unit, discloses wavelengths of 688, 730 and 880 nm. It would have been obvious to one having ordinary skill in the art at the time the invention was made to use the 688 nm as taught by Drollette in the invention of Ignatius to meet a specific requirement. This is obviously suggested by Quantum Device literature featuring custom LED units.

Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent 5,278,432 to Ignatius et al as applied to claim 1 above, and further in view of The MCW/NASA Light Emitting Diode Homepage (from applicant 1449) dated July 15, 1999. Ignatius is discussed above, but does not disclose an energy density. The MCW/NASA Light Emitting Diode Homepage teaches using LED's at wavelengths of 680, 730 and 880 nm at $4\text{J}/\text{cm}^2$ for medical treatment. It would have been obvious to one having ordinary skill in the art at the time the invention was made to use the fluence as taught by The MCW/NASA Light Emitting Diode Homepage in the invention of Ignatius for selected medical treatments.

Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent 5,278,432 to Ignatius et al and further in view of The MCW/NASA Light Emitting Diode Homepage (from applicant 1449) dated July 15, 1999 as applied to claim 5 above and further in view of Qbeam Solid State Lighting System specification pulled from <http://web.archive.org/web/20001204152800/http://www.quantumdev.com/>. This is Quantum Devices web page from December 4, 2000. Ignatius and NASA are silent regarding the power output of the LED. The Qbeam specifications show the 670 nm LED's with a power output from 45 to 99 mW/cm^2 . It would have been obvious to one having ordinary skill in the art at the time

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the invention was made to use a power as taught by the Qbeam specifications in the invention of Ignatius/NASA to meet the treatment requirement.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure:

U.S. Patent 6,159,236 to Biel teaches an LED device with a heat sink and a wavelength between 450 and 850 nm with a fluence of 0-300 J/cm².

U.S. Patent 5,616,140 to Prescott discloses an LED device with a wavelength of 600-800 nm and a power level of 2.6-100 mW/cm² and a heat sink.

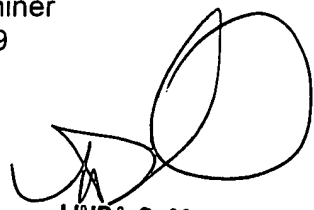
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Henry M Johnson, III whose telephone number is (703) 305-0910. The examiner can normally be reached on Monday through Friday from 6:30 AM to 4:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Linda C Dvorak can be reached on (703) 308-0994. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9302 for regular communications and (703) 872-9303 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0858.

Henry M Johnson, III
Patent Examiner
Art Unit 3739

Hmj
May 16, 2003



LINDA C. M. DVORAK
SUPERVISORY PATENT EXAMINER
GROUP 3700